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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,754

05/22/2006

Shigeru Arisawa

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EXAMINER

TSE, YOUNG TOI

ART UNIT

PAPER NUMBER

2611

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,754	<b>Applicant(s)</b> ARISAWA ET AL.	
	<b>Examiner</b> YOUNG T. TSE	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 1-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20061002; 20050921</u> .                                      | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The Foreign Patent Documents BA, BB, and BC of the information disclosure statement (IDS) submitted on September 21, 2005 and October 02, 2006 are identical. Therefore, only one set is considered by the examiner.

### ***Drawings***

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the

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description: the reference signs "10" and "10a" are not shown in Figure 2 as described on page 11, line 17 and page 12, lines 5 and 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because the outputs of the angles "0" and " $\pi/2$ " should be " $\pi/2$ " and "0", respectively. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

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“Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

6. The abstract of the disclosure is objected to because the “[ $\pi/2$ ]” and “[ $+\pi/2$ ]” should be “( $\pi/2$ )” and “ $+\pi/2$ ”, respectively. Correction is required. See MPEP § 608.01(b).

7. The disclosure is objected to because of the following informalities: page 17, line 2, “S1” appears to read “S2” as shown in Figure 3; page 19 (line 20), page 20 (line 15), and page 23 (lines 2 and 5), “3A” should be “S3A”; page 20, line 1, “[%]” should be “%”; and page 24 (line 12), “52” should be “253”. Appropriate correction is required.

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

9. Claims 1-12 are objected to because of the following informalities:

Claim 1, line 3, “clock of” should be “a clock of”; line 10, “[ $\pi/2$ ]” should be “( $\pi/2$ )”; line 18, “by the control signal” appears to be “of the control signal”; line 20, “results to” should be “result to”; line 23, “[ $+\pi/2$ ]” should be “ $+\pi/2$ ”, and line 27, “control signal”

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should be “control signal to output the clock by the first or second phase comparison result (see the preamble).

Line 2 of each of claims 2, 3, 5, 6, 8, 9, 11, and 12, “consists of” is suggested change to “comprises”.

Claim 4, line 11, “[ $\pi/2$ ]” should be “( $\pi/2$ )”; line 18, “direction by” appears to be “direction of”; line 22, “results by” should be “result by”; and line 25, “[ $+\pi/2$ ]” should be “ $+\pi/2$ ”.

Claim 6, line 1, “claim 5” should be “claim 4”.

Claim 7, line 8, “[ $\pi/2$ ]” should be “( $\pi/2$ )”; line 14, “by the control signal” appears to be “of the control signal”; line 17, “results by one period of the input signal” should be “result by one period of the transmit signal”; and line 21, “[ $+\pi/2$ ]” should be “ $+\pi/2$ ”.

Claim 10, line 9, “[ $\pi/2$ ]” should be “( $\pi/2$ )”; line 15, “by the control signal” appears to be “of the control signal”; line 18, “results by one period of the input signal” should be “result by one period of the response signal”; and line 22, “[ $+\pi/2$ ]” should be “ $+\pi/2$ ”.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 (lines 22 and 25), claim 4 (lines 24 and 27), claim 7 (lines 19 and 22), and claim 10 (lines 20 and 23), the phrases “the discrimination result” and “the detection result” both lack antecedent basis.

Claim 1, line 24, is the phrase “a control signal” difference than “a control signal” recited earlier in lines 7-8 of the claim? Also see claim 4, line 26; claim 7, line 21; and claim 10, line 22.

The dependent claims 2-3, 5-6, 8-9, and 11-12 are rejected to because they all depend on the rejected precedent independent claims 1, 4, 7, and 10, respectively.

### ***Allowable Subject Matter***

12. Claims 1-12 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

13. Claims 1-12 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Whitlock et al. relates to a phase detector responds to large phase deviation between a locally generated signal and a reference signal for actuating a successive frequency approximation register to effect major count alteration in a counter for controlling a digital-to-analog converter, and, in turn, a voltage controlled oscillator.

Matsuoka et al. relates to a frame synchronizing apparatus for detecting an excessive phase error condition in which an absolute value of the detected phase error has exceeded a first predetermined threshold value during each of a number of consecutive phase comparison operations and in which the number of consecutive phase comparison operations exceeded a second predetermined threshold value and responsive to detection of the excessive error condition for instantaneously setting the frame synchronizing signal in phase with the correction signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is 571- 272-3051. The examiner can normally be reached on Monday-Friday 10:00-6:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on 571- 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YOUNG T. TSE/  
Primary Examiner, Art Unit 2611